

WHAT IS CLAIMED IS:

1. A method of making a powder concentrate comprising:
5 forming an aqueous dispersion containing at least one
additive and one or more dispersing agents, wherein at least one
dispersing agent comprises a first copolymer of ethylene and acrylic
acid monomers; and
 spray drying the dispersion to form the powder
10 concentrate.
2. The method of Claim 1, further comprising:
 stirring the dispersion in a mixer for at least 1/2 hour to
form a stirred dispersion; and
15 processing the stirred dispersion through a milling
apparatus to form a milled dispersion prior to the spray drying step.
3. The method of Claim 2, wherein the milling step comprises:
 passing the stirred dispersion through the milling
20 apparatus during a first pass and removing a first liter of the dispersion
that passes through the milling apparatus during the first pass to form
a first pass milled dispersion;
 passing the first pass milled dispersion through the
milling apparatus during a second pass and removing a first liter of the
25 dispersion that passes through the milling apparatus during the second
pass to form a second pass milled dispersion; and
 passing the second pass milled dispersion through the
milling apparatus during a third pass and removing a first liter of the
dispersion that passes through the milling apparatus during the third
30 pass to form a third pass milled dispersion.
4. The method of Claim 2, wherein the milled dispersion contains
particles, wherein less than about 2.0 weight percent of the particles
have a particle size greater than 2 microns.
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5. The method of Claim 1, wherein the spray drying step
comprises processing the dispersion through a dryer having an inlet

temperature of about 220°C, an outlet temperature of about 90°C, an atomizer running at about 24,350 revolutions per minute, and a spray drying rate of about 25 pounds of concentrate per hour.

5 6. The method of Claim 1, wherein the aqueous dispersion
comprises (a) up to about 25 wt% of a colorant; (b) from about 2.0 to
about 10.0 wt% of a first copolymer of ethylene and acrylic acid,
wherein the first copolymer contains about 20.5 wt% acrylic acid,
based on a total weight of the first copolymer; and (c) from about 1.0
10 to about 5.0 wt% of a block copolymer of ethylene oxide and
propylene oxide, wherein the block copolymer contains about 20.0
wt% ethylene oxide, based on a total weight of the second copolymer,
and contains propylene blocks having a combined molecular weight of
about 2500; wherein the weight percent of each of (a), (b), and (c) is
15 based on a total weight of the aqueous dispersion.

7. The method of Claim 6, wherein the aqueous dispersion
comprises (a) about 20 wt% of a colorant; (b) from about 2.0 to about
8.0 wt% of a first copolymer of ethylene and acrylic acid, wherein the
20 first copolymer contains about 20.5 wt% acrylic acid, based on a total
weight of the first copolymer; and (c) about 2.0 wt% of a block
copolymer of ethylene oxide and propylene oxide, wherein the block
copolymer contains about 20.0 wt% ethylene oxide, based on a total
weight of the second copolymer, and contains propylene blocks
25 having a combined molecular weight of about 2500; wherein the
weight percent of each of (a), (b), and (c) is based on a total weight of
the aqueous dispersion.

8. The method of Claim 1, wherein the powder concentrate
30 comprises (a) from about 50 to about 98 wt% of a colorant; (b) from
about 5.0 to about 30.0 wt% of a first copolymer of ethylene and
acrylic acid, wherein the first copolymer contains about 20.5 wt%
acrylic acid, based on a total weight of the first copolymer; and (c)
from about 5.0 to about 10.0 wt% of a block copolymer of ethylene
35 oxide and propylene oxide, wherein the block copolymer contains
about 20.0 wt% ethylene oxide, based on a total weight of the second
copolymer, and contains propylene blocks having a combined

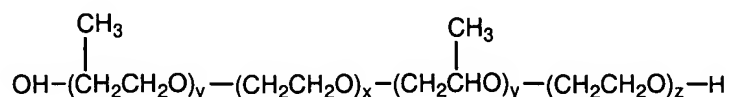
molecular weight of about 2500; wherein the weight percent of each of (a), (b), and (c) is based on a total weight of the powder concentrate.

5 9. The method of Claim 8, wherein the powder concentrate comprises (a) from about 65 to about 85 wt% of a colorant; (b) from about 10.0 to about 30.0 wt% of a first copolymer of ethylene and acrylic acid, wherein the first copolymer contains about 20.5 wt% acrylic acid, based on a total weight of the first copolymer; and (c) 10 from about 6.0 to about 8.0 wt% of a block copolymer of ethylene oxide and propylene oxide, wherein the block copolymer contains about 20.0 wt% ethylene oxide, based on a total weight of the second copolymer, and contains propylene blocks having a combined molecular weight of about 2500; wherein the weight percent of each of (a), (b), and (c) is based on a total weight of the powder concentrate.

15 10. A method of making a paste comprising:
forming a mixture comprising the concentrate formed in the method of Claim 1 and at least one carrier material.

20 11. A powder concentrate formed from the method of Claim 1.

25 12. A powder concentrate comprising:
at least one additive; and
a combination of dispersing agents comprising (i) a first copolymer of ethylene and acrylic acid; and (ii) a block copolymer of ethylene oxide and propylene oxide having a structure as shown below:



30 wherein v, x, y and z each independently represent a number ranging from 0 to about 40, and wherein either v or z equals 0.

35 13. The powder concentrate of Claim 12, wherein the powder concentrate comprises:
(a) from about 50 to about 98 wt% of an additive;

(b) from about 5.0 to about 30.0 wt% of a first copolymer of ethylene and acrylic acid, wherein the first copolymer contains about 20.5 wt% acrylic acid, based on a total weight of the first copolymer; and

5 (c) from about 5.0 to about 10.0 wt% of a block copolymer of ethylene oxide and propylene oxide, wherein the block copolymer contains about 20.0 wt% ethylene oxide, based on a total weight of the second copolymer, and contains propylene blocks having a combined molecular weight of about 2500;

10 wherein the weight percent of each of (a), (b), and (c) is based on a total weight of the powder concentrate.

14. The powder concentrate of Claim 13, wherein the powder concentrate comprises

15 (a) from about 65 to about 85 wt% of a colorant;

(b) from about 10.0 to about 30.0 wt% of a first copolymer of ethylene and acrylic acid, wherein the first copolymer contains about 20.5 wt% acrylic acid, based on a total weight of the first copolymer; and

20 (c) from about 6.0 to about 8.0 wt% of a block copolymer of ethylene oxide and propylene oxide, wherein the block copolymer contains about 20.0 wt% ethylene oxide, based on a total weight of the second copolymer, and contains propylene blocks having a combined molecular weight of about 2500;

25 wherein the weight percent of each of (a), (b), and (c) is based on a total weight of the powder concentrate.

15. The powder concentrate of Claim 12, wherein the powder concentrate comprises

30 (a) greater than 75 wt% of a colorant;

(b) from about 8.0 to about 16.0 wt% of a first copolymer of ethylene and acrylic acid, wherein the first copolymer contains about 20.5 wt% acrylic acid, based on a total weight of the first copolymer; and

35 (c) from about 4.0 to about 10.0 wt% of a block copolymer of ethylene oxide and propylene oxide, wherein the block copolymer contains about 20.0 wt% ethylene oxide, based on a total

weight of the second copolymer, and contains propylene blocks having a combined molecular weight of about 2500;

wherein the weight percent of each of (a), (b), and (c) is based on a total weight of the powder concentrate.

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16. The powder concentrate of Claim 12, wherein the powder concentrate has an average particle size of less than about 2.0 microns.

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17. The powder concentrate of Claim 12, wherein the powder concentrate consists essentially of:

(a) from about 50 to about 98 wt% of an additive;

(b) from about 5.0 to about 30.0 wt% of a first copolymer of ethylene and acrylic acid, wherein the first copolymer contains about 20.5 wt% acrylic acid, based on a total weight of the first copolymer; and

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(c) from about 5.0 to about 10.0 wt% of a block copolymer of ethylene oxide and propylene oxide, wherein the block copolymer contains about 20.0 wt% ethylene oxide, based on a total weight of the second copolymer, and contains propylene blocks having a combined molecular weight of about 2500;

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wherein the weight percent of each of (a), (b), and (c) is based on a total weight of the powder concentrate.

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18. The powder concentrate of Claim 17, wherein the powder concentrate consists essentially of:

(a) from about 65 to about 85 wt% of a colorant;

(b) from about 10.0 to about 30.0 wt% of a first copolymer of ethylene and acrylic acid, wherein the first copolymer contains about 20.5 wt% acrylic acid, based on a total weight of the first copolymer; and

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(c) from about 6.0 to about 8.0 wt% of a block copolymer of ethylene oxide and propylene oxide, wherein the block copolymer contains about 20.0 wt% ethylene oxide, based on a total weight of the second copolymer, and contains propylene blocks having a combined molecular weight of about 2500;

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wherein the weight percent of each of (a), (b), and (c) is based on a total weight of the powder concentrate.

19. The powder concentrate of Claim 12, wherein the powder concentrate consists essentially of:

(a) greater than 75 wt% of a colorant;

(b) from about 8.0 to about 16.0 wt% of a first copolymer of ethylene and acrylic acid, wherein the first copolymer contains about 20.5 wt% acrylic acid, based on a total weight of the first copolymer; and

(c) from about 4.0 to about 10.0 wt% of a block copolymer of ethylene oxide and propylene oxide, wherein the block copolymer contains about 20.0 wt% ethylene oxide, based on a total weight of the second copolymer, and contains propylene blocks having a combined molecular weight of about 2500;

wherein the weight percent of each of (a), (b), and (c) is based on a total weight of the powder concentrate.

20. The powder concentrate of Claim 12, wherein v, x, y and z each independently represent a number ranging from about 10 to about 30, and wherein either v or z equals 0.

21. The powder concentrate of Claim 12, wherein the sum of v and y is equal to about 42 and z equals 0.

22. A paste comprising:

the powder concentrate of Claim 12; and
at least one carrier material.